

**Sprague**   
*DEMAND MORE THAN SUPPLY*



**Doing More**

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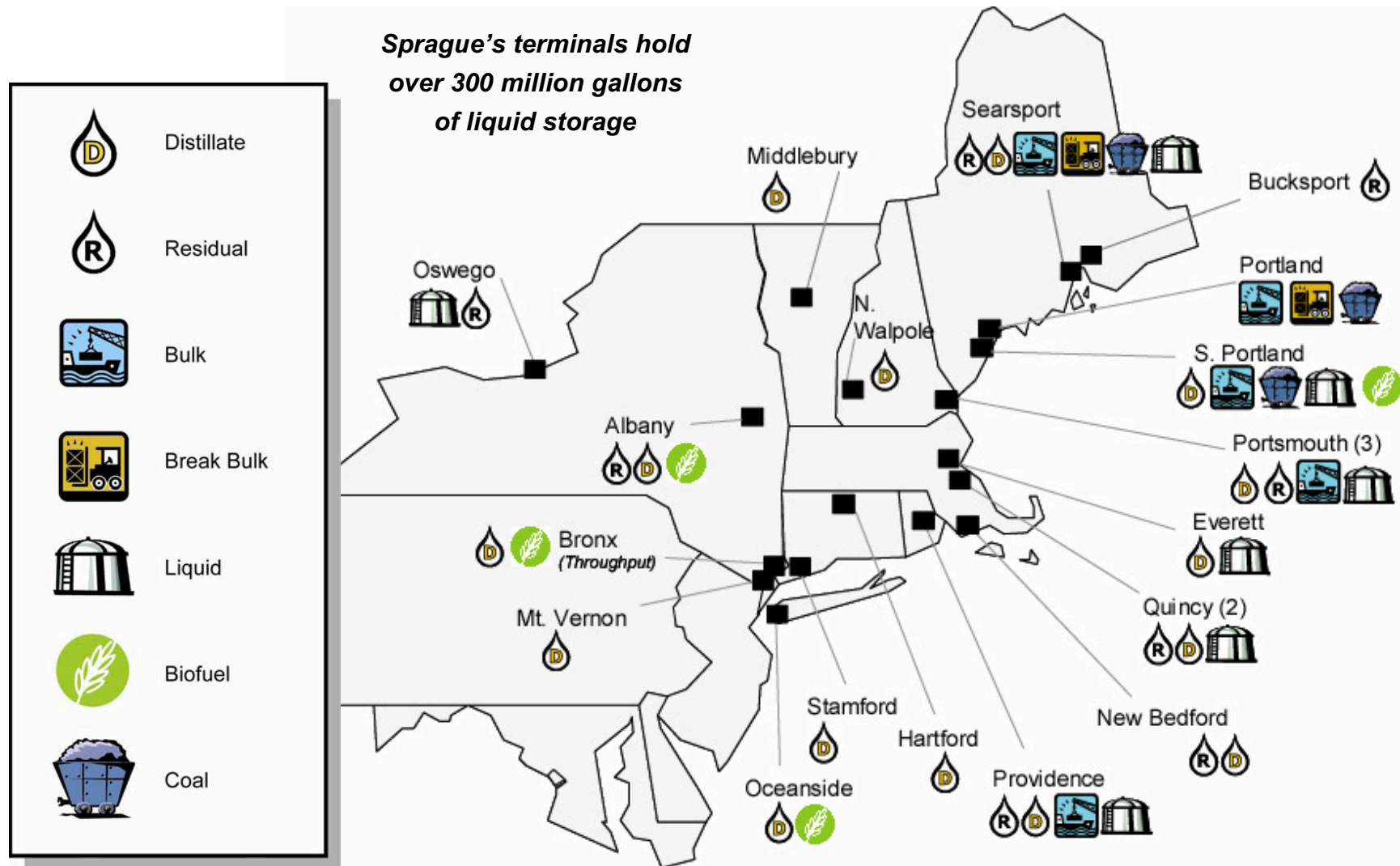
An  AXEL JOHNSON INC. Company

# Agenda

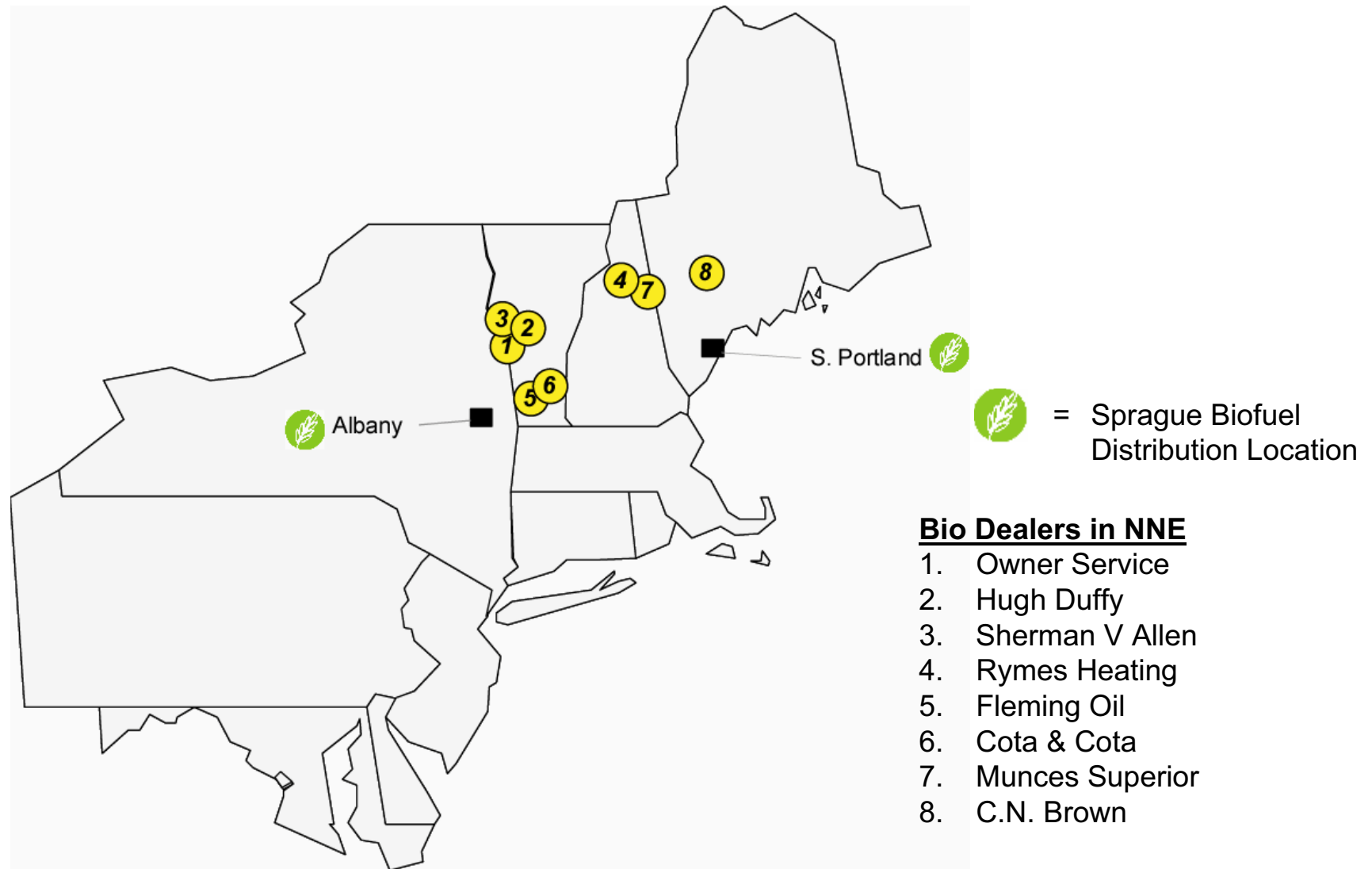
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- Introduction to Sprague Energy
- Biodiesel Quality and BQ 9000
- Biodiesel Supply and Distribution in Northern New England

# Sprague Owned Terminal Network



# Sprague's Northern New England Biofuel Distribution



## ASTM 6751 Standards - Diesel vs. Biodiesel

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Test	ASTM Test Method	Diesel	Biodiesel	Typical Biodiesel Ranges
Flash Point, °F	D 93	101 F	266 F	251-365
Sulfur, % mass, ppm	D 129	0.0015	0.0015	0.0006
Pour Point, °F	D 97	0	N/A	32 - 59
Cetane Number, min	D 613	40	47	47 – 70
Lubricity, HFRR, 520 M max	D 975	520	N/A	300 - 360
BTU Content	-	139,000	128,000 (equivalent to kero)	-

- Seamless and transparent with existing petroleum infrastructure
- Completely miscible with middle distillate fuel pool
- Safe – Health effects test confirm it is 10x less toxic than table salt and biodegrades as fast as sugar
- Virtually sulfur free
- Fuel efficiency is the same as diesel or #2 oil

# National Biodiesel Board BQ 9000 Program

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- To promote the commercial success and public acceptance of biodiesel
- To help assure that biodiesel is produced to and maintained at the industry standard, ASTM D 6751
- To avoid redundant testing throughout the production and distribution system
- To provide a mechanism to track biodiesel in the distribution system:
  - Identifying biodiesel which meets industry standards
  - Providing a means to reduce the probability of product reaching the marketplace which does not meet ASTM D 6751
- Sprague, first Petroleum company in the US to earn BQ 9000 Certified Marketer status



## Biofuel and Winter Operability

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# Cold Weather Operability: Understanding The Basics

## Cloud Point

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- The temperature at which wax in diesel fuel becomes cloudy when it is cooled.
- Wax will crystallize forming platelets that clog fuel filters.
- Typical diesel fuels will fail at temperatures near the cloud point.
- Sprague Biodiesel is specially formulated to break down wax crystals into microscopic fragments allowing them to pass through the fuel filter





## Cold Weather Operability: Understanding The Basics

### CFPP (Cold Filter Plugging Point)

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- Test which helps predict the cold weather operability of diesel fuel
- The temperature at which a fuel will cause a fuel filter to plug
- Simulates how fuel will respond in the field
- CFPP test is run each time terminal receives a new batch of diesel
- CFPP temp. is defined at the point where the truck will fail in the field



# Sprague's Online Diesel Specs



## Sprague RoadForce Premium Diesel Specifications



Date: Mar. 5, 2007

All temperatures are in degrees Fahrenheit

Terminal	Current RoadForce Kerosene Content %	RoadForce Cloud Point <sup>1</sup>	RoadForce CFPP <sup>2</sup>	RoadForce Pour Point <sup>3</sup>	RoadForce CFPP w/ additional 10% kero	RoadForce CFPP w/ additional 20% kero
Newington, NH	30%	+3	-16	-40	-19	-22
S. Portland, ME	50%	-5	-23	-40	-26	-29
S. Portland, ME (2% Biofuel)	50%	-1	-16	-35	-19	-22
S. Portland, ME (5% Biofuel)	50%	+1	-8	-30	-11	-14
Quincy, MA (ULSD)	20%	+6	-12	-38	-15	-18
Quincy, MA (LSD)	20%	+2	-16	-40	-19	-22
Providence, RI	0%	+9	-9	-22	N/A	N/A
East Hartford, CT	20%	+5	-13	-40	-16	-19
Springfield, MA (LE Belcher)*	0%	+15	+15	0	12	9
New Haven, CT (Magellan)	0%	+8	-10	-22	-13	-16
Stamford, CT	0%	+8	-10	-22	-13	-16
Rensselaer, NY	40%	+2	-16	-40	-19	-22
Rensselaer, NY B5 (5% Biofuel)	40%	+3	-15	-35	-18	-21
Rensselaer, NY B20 (20% Biofuel)	60%	+5	-9	-28	-12	-15
Newark, NJ (BP)	0%	+15	-3	-25	N/A	N/A
Trenton, NJ (Duck Island)	0%	+15	-3	-10	N/A	N/A

This fax lets our customers know what our latest winter operability specifications are for our RoadForce premium diesel fuel. This fax distribution will run until the end of the winter season, March 31st 2007.

If you want to discontinue the delivery of this fax, or have any other questions about RoadForce - please contact Tim Keaveney at (603) 430-7236.

<sup>1</sup>Cloud Point: The temperature at which wax in diesel fuel becomes cloudy when it is cooled. Wax is inherent in diesel fuel. As the fuel is cooled, the wax will crystallize forming platelets that clog fuel filters. Typical diesel fuels will fail at temperatures near the cloud point. RoadForce is specially formulated to operate well below the cloud point. This is accomplished with wax crystal modifier additives that break down the wax into microscopic fragments allowing them to pass through the fuel filter.

<sup>2</sup>CFPP: Cold Filter Plugging Point. The temperature at which a fuel will cause a fuel filter to plug due to wax which has begun to crystallize or gel. The CFPP is considered by Sprague to be the true indicator of the diesel fuels low temperature operability.

<sup>3</sup>Pour Point: When diesel fuel is cooled, wax crystals agglomerate and cause the fuel to solidify. The pour point is defined as the temperature 5° F above the point at which the oil stops flowing.

\* RoadForce not available until 1-22-07



## Biodiesel Cold Weather Operability:

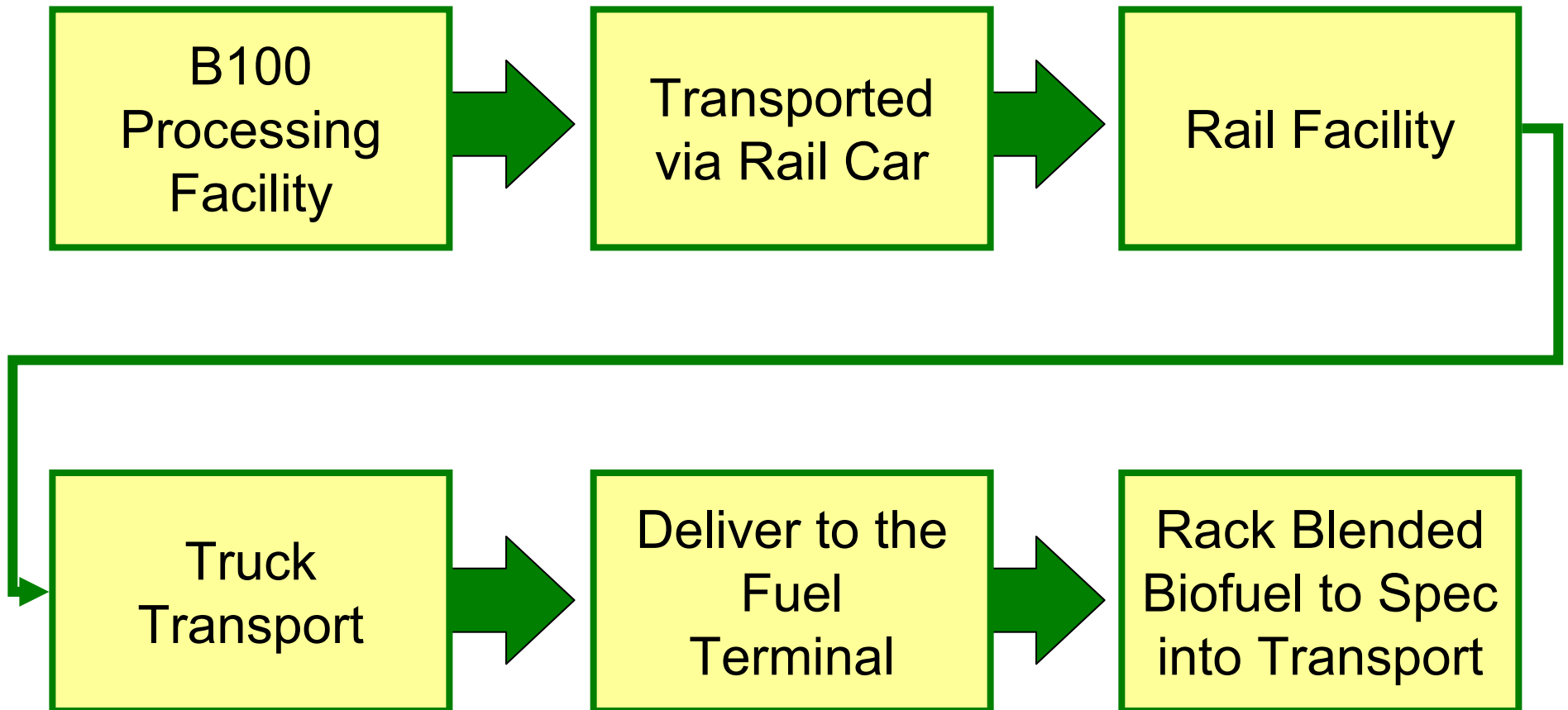
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The bottom line:

- Biodiesel cold weather operability is totally dependent on the petroleum cloud point.
- When managed properly, Biodiesel Works during the winter!
- We manage the program throughout the winter
- Rely on your supplier to guide you through the process

## Biodiesel - Supply and Distribution

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# What's Been Missing?

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## Robust Terminal Capacity Necessary To Seamlessly Integrate With Existing Petroleum Infrastructure

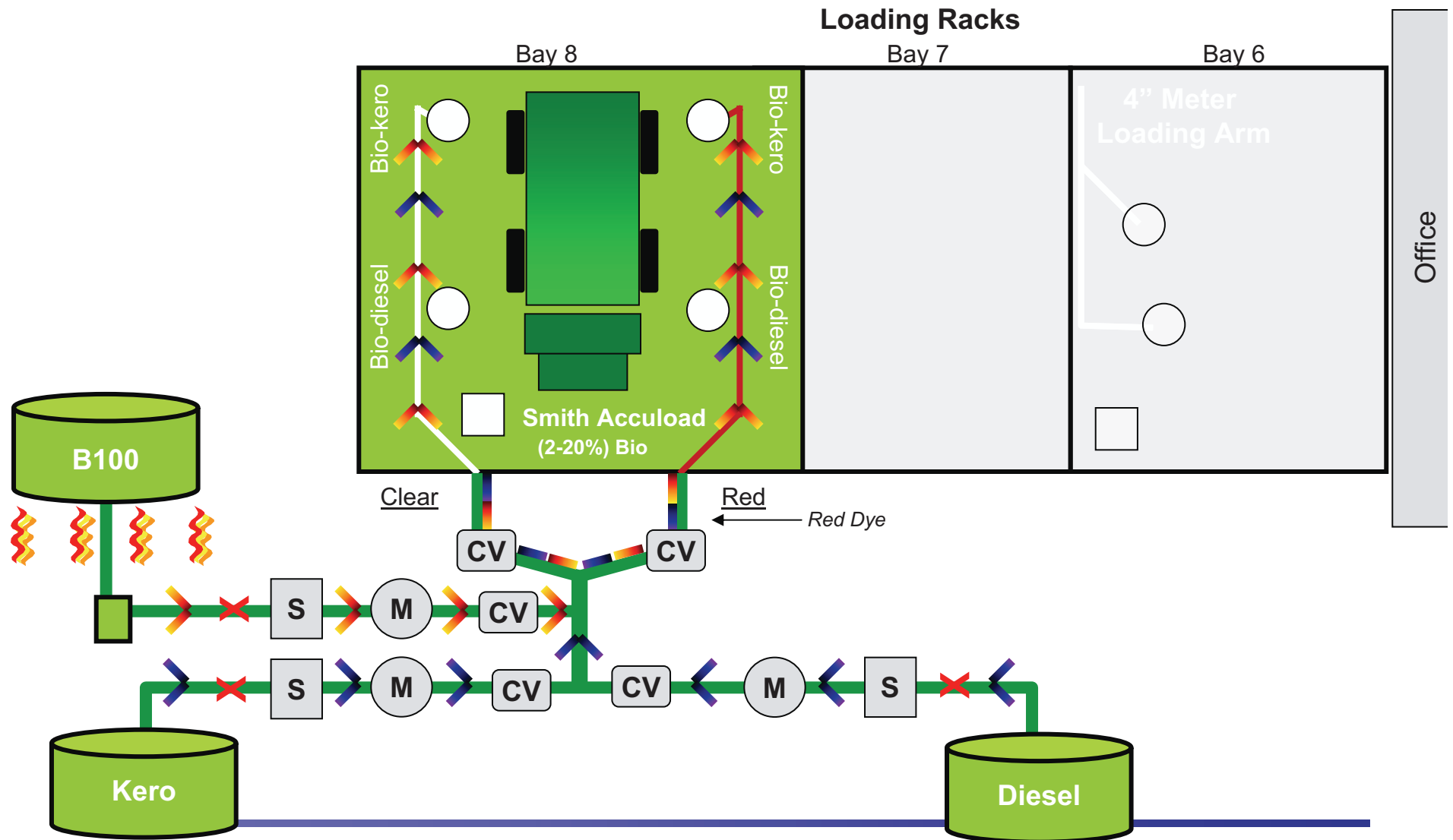
### Supply



### Demand



# Biodiesel – Multi-Recipe





## Biodiesel Storage and Handling Considerations

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- Above ground or under ground storage?
- Store B20 at temperatures at least 10F above cloud point
- Is the material being introduced to a clean tank environment?
- Utilize housekeeping techniques similar to regular diesel fuels
- How is the product being dispensed?



## Questions to ask your biodiesel supplier

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- What is the source of the Biodiesel?
- Is the supplier BQ 9000 Certified
- Can the supplier furnish fuel specifications?
- Is the product blended at a terminal rack or splash blended?
- What is the Cold Filter Plugging Point of the finished fuel
- References?

## Conclusion

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- Biodiesel is a proven fuel now widely accepted by fleets nationwide
- Biodiesel helps reduce emissions that lead to greenhouse gasses
- Biodiesel helps promote a strong environmental message to the general public
- Biodiesel helps reduce our dependence on foreign oil
- Biodiesel helps the American farmer and creates US jobs
- Biodiesel works in diesel engines during the winter
- Ski areas in New England can now obtain high quality ASTM specified quality biodiesel today